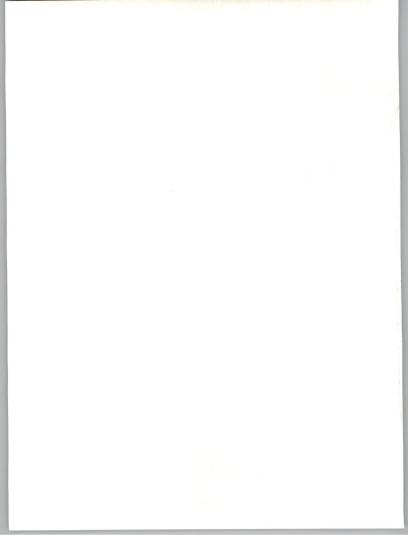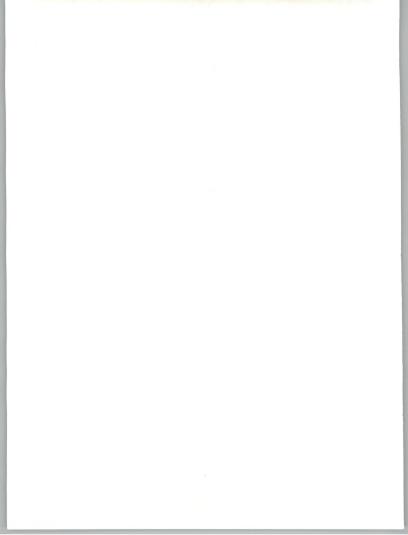Market Analysis
Program (MAP)

Industry Sector
Markets
1988-1993

Other Industry
Sectors

INPUT®

1280 Villa Street, Mountain View, CA 94041 (415) 961-3300

INDUSTRY SECTOR MARKETS, 1988-1993

OTHER INDUSTRY SECTORS

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**Market Analysis Program
(MAP)**

*Industry Sector Markets, 1988-1993
Other Industry Sectors*

MAVR-OI • Z792 • 1988

Table of Contents

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Exhibits

I

Introduction

A
Environmental/ Overview

The information utilized to describe the environment of the Other Indus-tries sector and prepare a forecast and analysis of vendor business in the sector (contained in Chapters II and III) was developed from the survey of users conducted for the ISP annual report, interviews of vendors conducted for the INPUT CAMS data base, and 20 interviews of vendors, users, and IS departments in this sector.
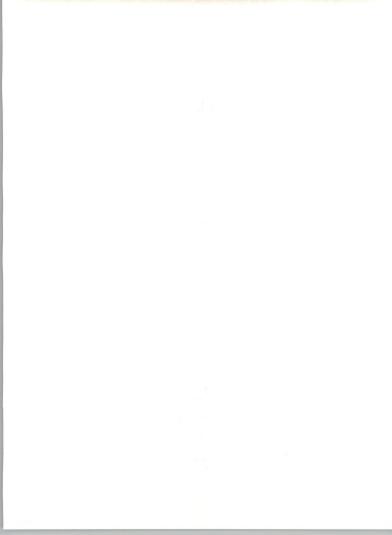
The Other Industries sector is used by INPUT to describe six market segments:

- Agriculture, forestry, and commercial fishing, hunting, and trapping
- Automotive rental, parking, and repair
- Construction of highways, plants, buildings, and service facilities
- Hotel, motel, and lodging
- Nonprofit membership organizations
- Recreation and entertainment

SIC information on these segments is included in Appendix A.

The environmental factors in each of these market segments has stimu-lated the use of computing.

- In agriculture, overproduction, debt burdens, and the consideration of new crops or programs (such as the federal plan for dairy farmers) have created much more need for planning, and many farmers and coopera-tive have started to use PCs to plan and keep records.

- Record keeping to track parts, customer charges, and orders—as well as an increased need for diagnostic systems in repair service and com-

petition in auto rentals—characterize the automotive services market.
The need for record keeping and the tracking of customer charges has
led to more use of computing.

- The need for more-formal planning, automated aid for design and
  engineering, scheduling, labor and cost control, purchasing, reviewing,
  and controlling has led to the development of software and turnkey
  systems to aid in the construction segment.

- In the hotel, motel, and lodging segment, overbuilding and a need to
  differentiate service have increased the importance of controlling the
  level of service and costs. This need has led to increased reliance on
  automation.

- Nonprofit organizations are under increasing pressure to provide
  mailings, magazines, and other services to compete for and hold mem-
  bers. Such pressure has stimulated the use of computing systems on
  PCs or minicomputers to manage membership lists, services, and fees.

- Recreation/entertainment is characterized by a need to recruit and
  retain employees at low salaries and to economically manage, admini-
  ster, and report on activities, events, services, and/or franchise opera-
  tions. These activities have encouraged the use of computing for
  record keeping and accounting, and it has spread in some areas of
  recreation/entertainment.
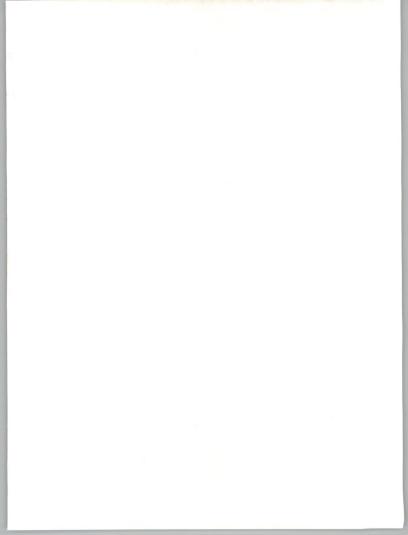
B
Industry Trends

Although the segments of the Other Industries sector are diverse in
nature, they exhibit some common trends.

Need for cost control is staying high or increasing in each segment.

- In agriculture, this need is caused by the squeeze between costs and
  prices, particularly as price supports are eased.

- Competition in automotive services between dealers offering repair
  services and between auto rental agencies is increasing the need for
  cost control. Competition in the construction business is also a factor
  necessitating more cost control.

- Increased demand for services to differentiate companies has been a
  factor leading to increased cost control in hotel/motel/lodging, non-
  profit organizations, and recreation/entertainment.

Increasing use of technology can be seen in most of these segments—
from the use of biotechnology and robots in farming to the diagnostic
equipment employed in automotive maintenance. Construction equip-

ment continues to become more sophisticated and recreation/entertainment and hotels are making more use of technology. A number of the larger hotel chains have sophisticated networks and on-line systems for reservations.

All of these segments are being run more as businesses than as family or group-run enterprises (as was true in the past), because there is more record keeping, government reporting, and organization of activities.

Factors that have limited growth in these segments have been the operations-oriented management, the reluctance to use information to manage business operations, and the periods of low earnings when business organization and planning are dropped.

C
Driving Forces
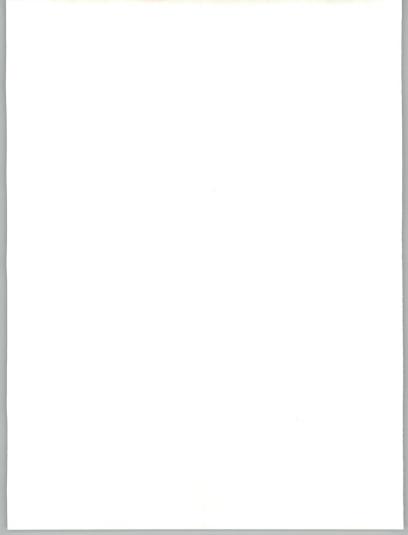
The driving forces that were identified by users, IS managers, and vendors as having an impact on IS in this sector are listed in Exhibit I-1.

EXHIBIT I-1

OTHER INDUSTRIES SECTOR DRIVING FORCES

- Record Keeping for Tax Purposes

- Bottom-Line Return

- More Business Complexity

- Expanding Wealth of Powerful IS Technology

- Need for More End-User Computing

Record keeping for tax purposes and bottom-line return were the driving forces ranked highest. A number of users mentioned that they felt more pressure to have records available to file and answer tax questions than for any other aspect of business. The oscillation between boom and bust has made many individuals, companies, and organizations in this sector more concerned with profitability as well.

The increasing use of technology (including computing) and more-formal organization structures have caused more business complexity to be identified as a driving force.

The expanding wealth of powerful IS technology is also seen as a driving force in the Other Industries sector, due to increasing awareness of PC, communication, and storage technology, and the increasing availability of applications for the sector.

The need for more end-user computing is a driving force that limits the expansion and use of IS in many situations. Low salaries, turnover of personnel, and lack of training are contributing factors.

D

Issues and Inhibiting Factors for Vendors

Vendors issues that were developed from information supplied by users, IS managers, and vendors in this sector are listed in Exhibit I-2.
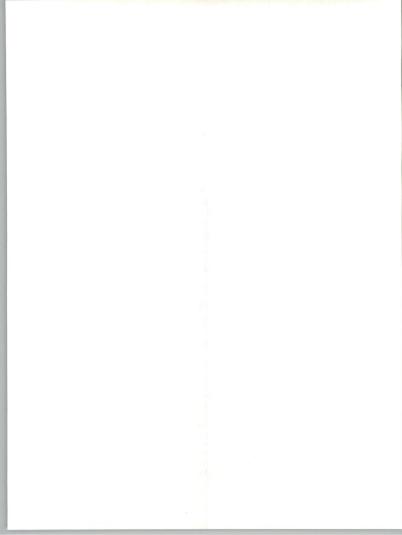
EXHIBIT I-2

ISSUES FOR IS VENDORS

- Customization

- User Training and Support

- Integration

- Connectivity

- Data Management

Each of these issues requires consideration and planning in terms of the objectives for success in this sector.

The first issue that vendors must face is the degree of customization desired in this market sector. Many prospects in these competitive, cost-conscious, and generally underautomated market segments are looking for hotel, construction, automobile repair, entertainment franchise, or other systems that have been developed or customized just for their niches. Vendors have to decide just how much customization or special

features to deliver in order not to have their growth inhibited by the support provided for some users.

User training and support is also an important issue. It is vitally needed to ensure useful systems since many users in this sector have little experience, but it can be expensive to supply. Some vendors have used instructional tapes for tape recorders, on-line aid, and hot lines to reduce costs of support.

Integration of applications and data is required to meet the needs of business in this sector, since functional needs such as accounting, purchasing, scheduling, payroll, and cost control tend to be tightly integrated in successful operations.

Connectivity to obtain or deliver data at crucial moments is needed to permit functions that are spread out in an entertainment, hotel, or construction activity.

Data management has become an important issue in this sector for organizations, particularly larger ones, that have installed and evolved their IS capabilities. Larger hotels, car rental companies, and construction companies are interested in storing and analyzing details on costs and customer business. The larger car rental companies use their data bases to help develop bids and pricing to meet low-priced competition. Data management technology and relational systems are becoming more important.

Several vendors also noted the danger of developing capabilities at the wrong moment, such as when construction, farming, or the hotel business falls off or has a retrenchment. Changing business conditions can be more of an inhibiting factor in this sector than in others.

E
Issues for Information Systems (IS) Departments

Vendors must consider the IS departments issues listed in Exhibit I-3 in planning their strategies for success in this sector. These issues were developed on the basis of information supplied by users, IS departments, and vendors serving this sector.

The most critical issue identified in Exhibit I-3 is the adequacy of accounting/record keeping, which is more of an issue for the many small companies and some mid-sized companies than it is for larger companies. IS managers in many cases feel that sound accounting systems must be developed to meet tax and record keeping needs before industry specific problems are addressed.
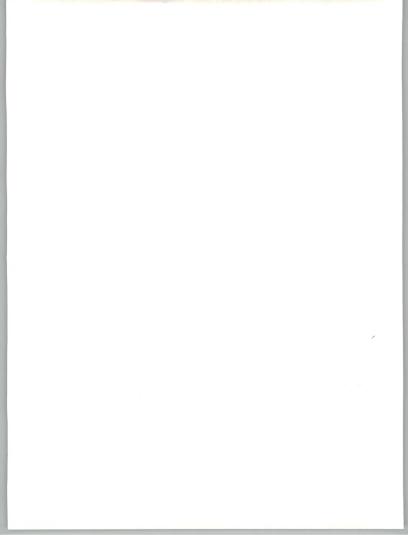
EXHIBIT I-3

ISSUES FOR IS DEPARTMENTS

- Adequacy of Accounting/Record Keeping

- Connectivity and Integration

- End-User Participation

- Education Training and Support

- Impact of Technological Change

Connectivity and integration are also needs that must be considered in view of interlocked functions in the sector. Vendors must become familiar with these needs to successfully sell construction companies, hotels, or automotive service companies.

End-user participation is a critical issue for IS managers. Where users are not running systems, their assistance is necessary to develop requirements and application systems.

Education, training, and support must be supplied to help users meet this challenge from a very limited budget in most cases.

The impact of technology that can be used in the business or that can make information systems more useful and economic is an issue for IS managers, who must be prepared for changes in this volatile sector. Lower-priced PCs, new types of storage technology, and more network capabilities can have a sizable impact on information system use.

F
Major Issues for End Users

The issues listed in Exhibit I-4—which were developed from information supplied by users, IS departments, and vendors—must be considered by information system vendors in planning their strategies for success in the sector.
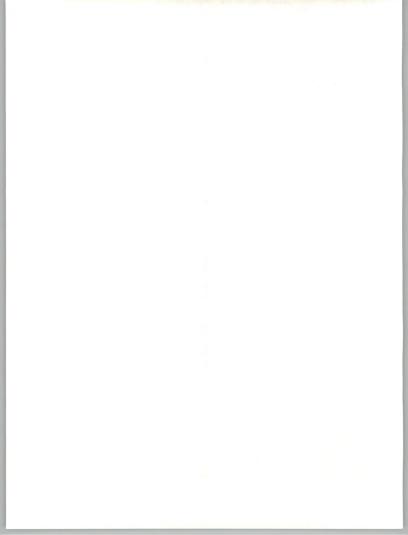
EXHIBIT I-4

ISSUES FOR END USERS

- Expanded Role in System Use and Development

- Adequacy of Record Keeping and Accounting

- Connectivity and Integration

- Data Management

- Obtaining Training and Support

The first issue, an expanded role in systems use and development must be addressed by users in this sector who have not yet become sufficiently involved with the use of IS. In order to meet the special application needs of this industry and supply the resources necessary to develop adequate systems, users must become more involved.

- Users must also review systems in operation or manual systems and ensure their adequacy of record keeping and accounting.

- Vendors must encourage the participation of users when they are not being consulted during the evaluation of systems.
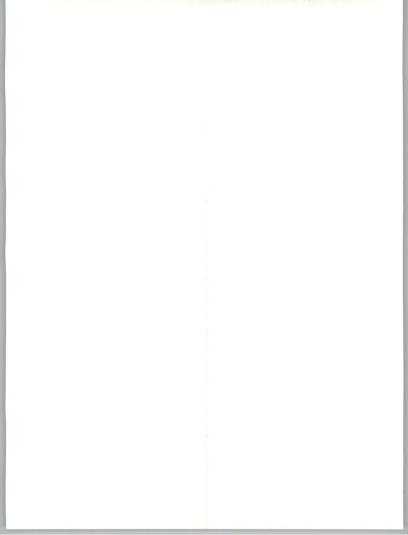
Users will find that the issues of integration and connectivity are important in the design of systems to meet the tightly linked needs of this sector.

For many users in this sector obtaining training and support is an issue that is difficult to obtain, in view of tight budgets. When a new system is being considered, budgets must include sufficient training by IS or vendors to introduce users to system and technology concepts, as well as to train users to handle the system.

G
Subsector Analysis

As a result of economic conditions, the number of farms will decline between 1988 and 1993. Government subsidies to farms are expected to lessen or change significantly, causing many farms to consolidate or close. Changing economies of scale will force consolidation of some

small farms and medium-sized enterprises. The consolidated farms will be located near one another to share expensive tools and equipment.

The number of automotive services businesses will increase. Auto service providers are moving toward increased specialization, such as oil-filter-lube operations, brake shops, muffler shops, and auto detailing shops. The creation of suburban auto service centers is driving the growth of auto service enterprises. These suburban auto centers, with longer operating hours, are necessary to successfully serve two-income families who have less time available to do necessary chores.

The number of construction enterprises will increase slightly overall, owing to more foreign enterprises and more highly specialized subcontractors. Overall long-term prospects for residential, industrial, government, and commercial construction are good.
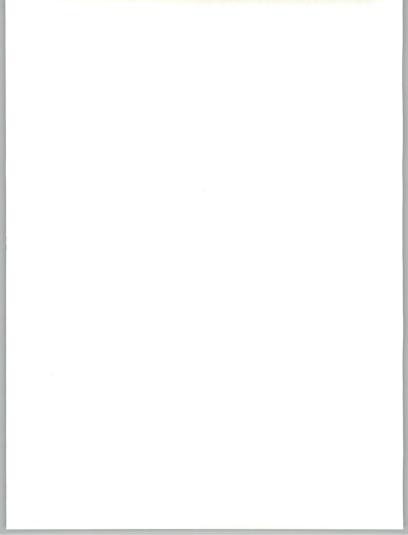
Long-term prospects for hotel/motel/lodging are good, since discretionary income is rising and people generally have more paid vacation time for travel. The trend toward diversification in property types will continue, although at a slower pace.

The number of large nonprofit/membership organizations will increase approximately 5% per year during the forecast period.

The number of motion picture theaters will decrease slightly during the forecast period. The increase in videocassette rentals will have the greatest impact on non-first-run theaters in large and medium-sized cities. The number of other amusement-based businesses will decrease slightly as a result of more mergers and acquisitions; surviving organizations will be good prospects for increased computerization.

1. Agriculture

Although there are about 2.2 million farms, expenditures for software and services by this segment account for approximately 15% of total Other Industries information services expenditures. Information services spending by forestry and fishery companies represents 0.5% and 0.8%, respectively, of total sector spending. Information services spending by the 100 largest agribusiness enterprises represents 65% of total agriculture segment spending for information services.

2. Automotive Services

Information services expenditures by the 140,000 auto service organizations account for 2% of total Other Industries IS expenditures. Information services spending by the largest auto repair and maintenance companies represents 50% of total auto services segment spending for information services.

3. Construction

Information services spending by the 1.5 million construction enterprises accounts for 65% of total Other Industries IS spending. Spending by the 100 largest construction companies accounts for 45% of total construction IS spending.

4. Hotel/Motel/Lodging
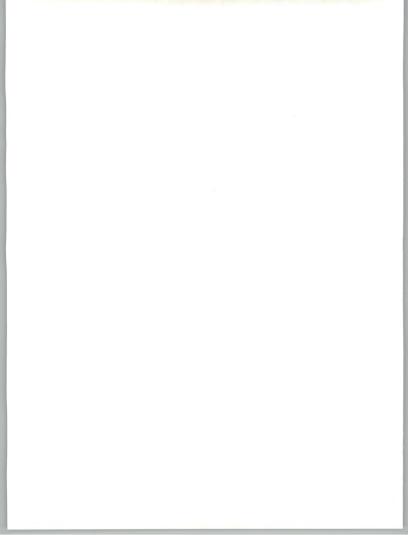
IS spending by the 45,000 hotel/motel companies represents 7.5% of total sector IS spending. IS spending by the largest 100 lodging chains represents 60% of all lodging companies' IS expenditures.
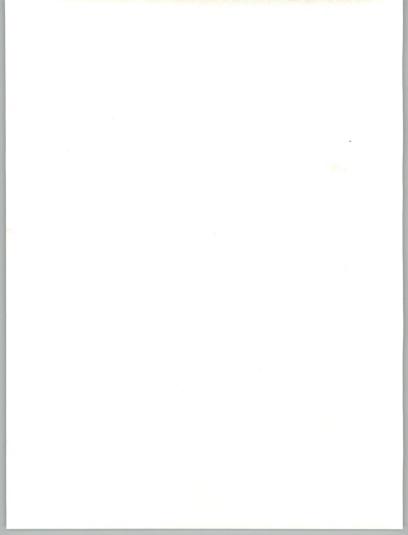
5. Nonprofit/Membership Organizations

IS spending by the 1.2 million nonprofit/membership organizations represents 6.1% of total sector IS spending. An estimated 8% of all nonprofit organizations receive donated computer hardware. Apple Computer's Apple Education Foundation donates Macintosh hardware to qualifying organizations. The largest 100 nonprofit/membership organizations account for 35% of total nonprofit/membership organization IS spending.

6. Recreation/Entertainment

IS spending by the 960,000 recreation/entertainment companies accounts for 2.5% of total sector IS spending, while IS spending by the largest 100 recreation/entertainment companies represents 30% of total recreation/entertainment firm IS expenditures.

II

Market Forecast

INPUT forecasts that user expenditures for the Other Industries sector will amount to $1.5 billion in 1988, as shown in Exhibit II-1. This will include expenditures for processing services, application software, and turnkey systems, as well as expenditures for network services, systems integration, and professional services. The latter three were not previously analyzed in relation to this sector.

As shown in Exhibit II-1, INPUT projects a compound annual growth rate (CAGR) for this sector of 14% between 1988 and 1993, and $3 billion in expenditures in 1993.

EXHIBIT II-1

**OTHER INDUSTRIES SECTOR MARKET FORECAST
INDUSTRY-SPECIFIC
INFORMATION SERVICES
1988-1993**
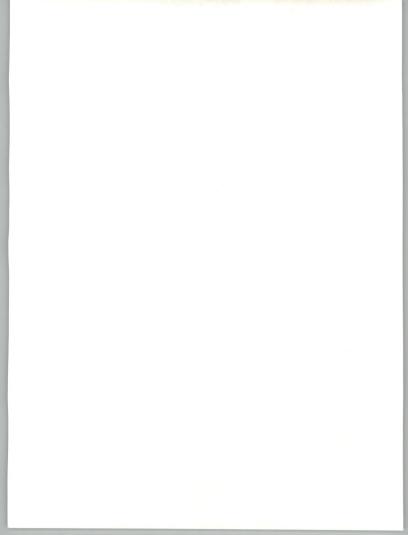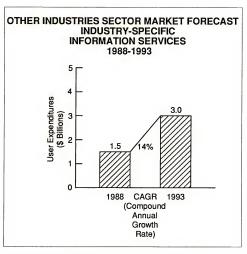
More details on growth are shown in Exhibits II-2, and II-3, and in Appendix B.

Processing services will continue to be the largest information service in this sector between 1988 and 1993, growing at an CAGR of 11% to $1 billion in 1993, as shown in Exhibit II-2. The use of processing services is fueled by the specialized applications developed by ADP.

Application software, systems integration, and professional services will grow at higher rates than processing services as automation grows in this sector, as shown in Exhibit II-2.

- Application software will grow at a CAGR of 18% to $360 million in 1993, reflecting the rising acceptance of small- and medium-sized systems in all sectors.

EXHIBIT II-2

OTHER INDUSTRIES SECTOR MARKET FORECAST
INFORMATION SERVICES BY DELIVERY MODE
1988-1993
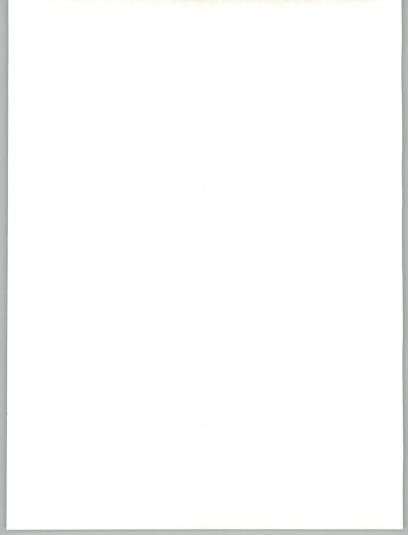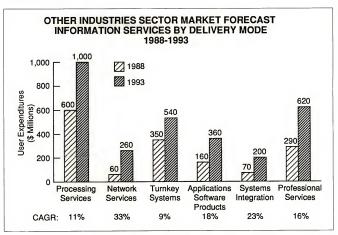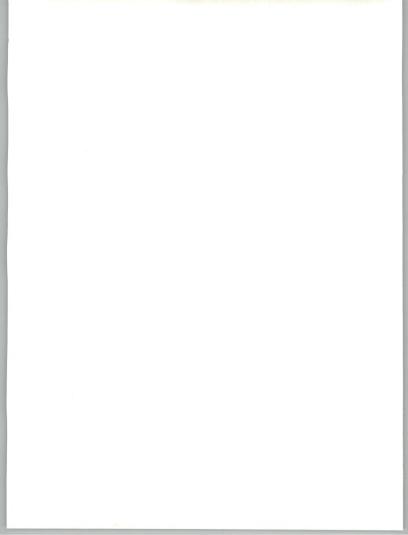
The growth of application software use will be led by workstations/PCs which will grow at a CAGR of 34% to $90 million in 1993, as shown in Exhibit II-3.
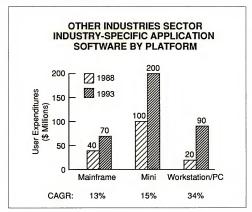
- Systems integration will grow rapidly, from a small base at a CAGR of 23% to $200 million in 1993.

- Professional services will grow by a CAGR of 16% to a level of $620 million in 1993, becoming the second-largest information service product in the sector.

Turnkey systems will grow at a CAGR of 9% to $540 million in 1993, as shown in Exhibit II-2. Turnkey systems are losing market share to software products in this sector, as more vendors opt for a software-only position.

Network services will expand in use in the sector, growing at a CAGR of
33% from a small base to $260 million in 1993. The proliferation of PCs
and workstations in distributed work environments will provide high
potential for networking services.

EXHIBIT II-3

OTHER INDUSTRIES SECTOR INDUSTRY-SPECIFIC APPLICATION SOFTWARE BY PLATFORM

User Expenditures ($ Millions)

Platform	1988	1993
Mainframe	40	70
Mini	100	200
Workstation/PC	20	90

| CAGR: | 13% | 15% | 34% |
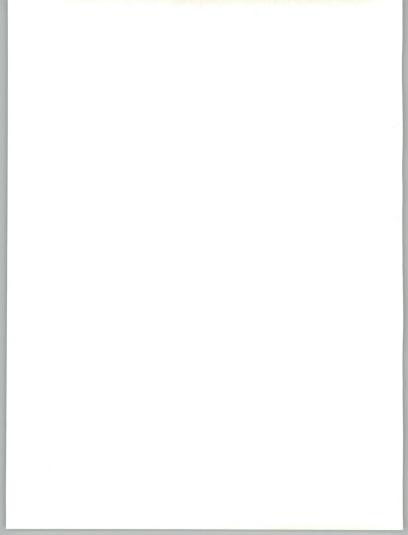
A
Delivery Mode Analysis

1. Processing Services

The heaviest users of processing/network services are concentrated in just
four vertical markets—lodging, automobile rentals, agriculture, and
nonprofit organizations.

- Major processing services for the lodging industry systems are pro-
  vided by American Airlines (SABRE), Best Western, Ramada Inns,
  Hilton Hotels, and Sheraton Hotels.

- The largest processing services for auto rental companies include
  SABRE, Hertz, Avis, Budget, and National. They also provide services
  for smaller agencies.

- Many networks serve the agricultural community, chiefly networks for commodity and crop price reporting, accounting, weather data, and federal government regulations. AgNET and AgriStar are the best-known on-line networks.

- Industry associations—especially those that we located in Washington D.C. and that provide lobbying efforts—use Legi-Slate, Washington Alert Service, or Information for Public Affairs to monitor legislation.

Despite inroads by minis and micros, demand for processing services is expected to increase due to the timeliness and breadth of information required by this sector. CD-ROM-based updates may have a slight negative impact on the growth rate but, in general, timeliness and completeness of information spurs demand for processing/network services.

INPUT divides industry segment usage of processing services into:

- Lodging: 45%
- Automobile rentals: 25%
- Agriculture: 15%
- Nonprofit organizations: 10%
- Others: 5%
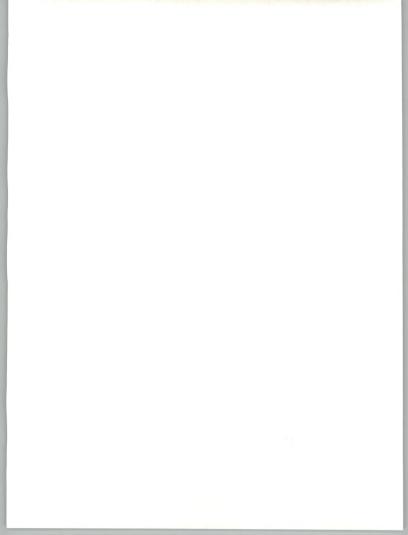
2. Turnkey Systems

Turnkey systems sales account for 23% of total 1987 industry sector user expenditures. Sales of turnkey systems will increase 9% through the forecast period, versus overall sector growth of 14%. Turnkey sales continue to account for a relatively large proportion of sector user expenditures. Turnkey systems' relative strength is attributable to the realities of selling to vertical markets with technically unsophisticated buyers.

- Buyers in these industries do not want the steep technical learning curve associated with the purchase of computers; they would rather tend to their primary business responsibilities.

- It is easier for the sales representative to sell a complete system and follow-on maintenance services than to sell the hardware or software separately.

- Turnkey systems represent solutions for applications that do not have to be integrated with, say, an organization's main accounting system. Most office-based applications in agriculture, auto services, construc-

tion, lodging, nonprofit organizations, and recreation/entertainment are
effectively handled with a turnkey system.

3. Applications Software

Applications software accounts for 10% of total 1987 user expenditures
in the Other Industries sector and will increase at an overall 18% annual
rate through 1993. The disparity between expenditures for mainframe/
minicomputer and microcomputer applications software can be explained
starting with the installed hardware at the largest organizations.
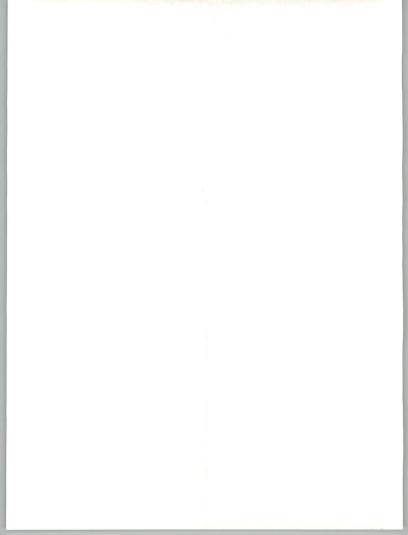
- Recall that the largest organizations represent the greatest part of user
  expenditures in each of the six vertical segments.

- According to INPUT's research, the largest organizations in each
  segment have purchased mainframes and minicomputers to a far
  greater extent than non-turnkey-system microcomputers.

Furthermore, while many vendors sell microcomputer applications
software to these six industry segments, no vendor is large enough to
significantly influence segment revenues. Note, too, that none of the
leading 200 Information Services vendors focuses on sales to these
particular industry segments.
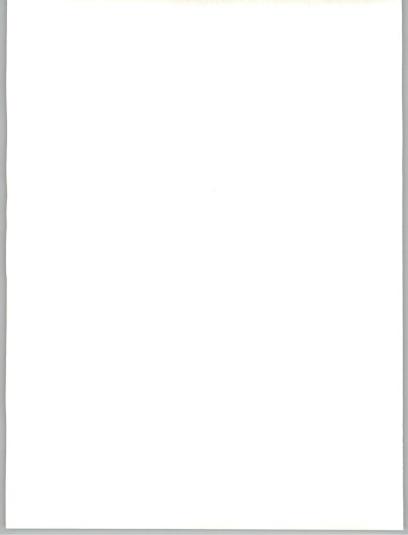
Steep discounts for microcomputer software or donated hardware for
nonprofit organizations and key reference accounts in these industries
yield relatively low dollar sales.

Key applications by sector include:
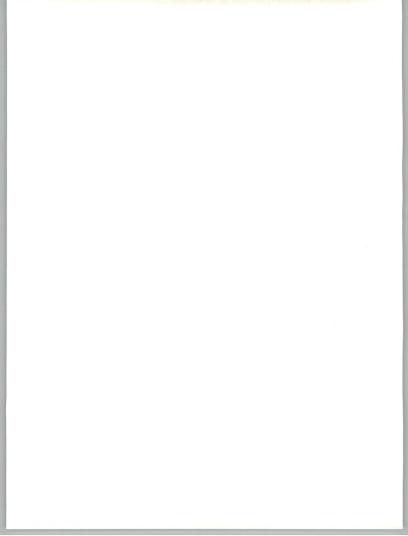
- Agricultural: Crop, dairy, and feed management; accounting; report-
  ing; real estate analysis; grain inventory management; and crop broker
  management.

- Automobile services: Labor reporting, parts inventory, accounting,
  payroll, rental management, and preventive maintenance.

- Construction: Project management and accounting, payroll, job cost-
  ing, subcontract management, purchasing, government reporting,
  service contracts, equipment cost, progress billing, bid analysis, and
  concrete estimating.

- Hotel/Motel/Lodging: Reservations, accounting, front office/night auditor, staffing, payroll, food and beverage control, guest history, telephone call accounting, room rate analysis, sales management, groups and conventions management, and purchasing.

- Nonprofits: Grant management, payroll, accounting, mail list management, exhibition management, membership management/renewal billing, contribution reporting, publication inventory, donor information, ID cards, and long-range planning.

- Recreation/entertainment: Accounting, payroll/ticket sales management, inventory, frequency of use, cart rental and service management, stamp and coin collection inventory, marina and yacht club management, league management, scouting and player rating, and weight/ fitness/performance evaluation.

III

Competitive Developments

A
Market Characteristics

This sector is distinguished by a wide range of vendor performance.

- ADP has been highly successful in selling processing services, mostly to the automotive services segment in this sector.

- Intergraph, Ultimate, and a few other vendors have been very successful in selling turnkey systems.

- A small group of vendors has had moderate success in selling software and professional services.

- A large number of small companies has engaged in strong competition and invested considerable time to sell application software or turnkey systems to low-margin companies that were reluctant to make initial investments.

Selecting targets and keeping a strategy in mind that will encourage sales but control risks and expenses is critical in this sector.

The key applications and technology identified by vendors in regard to this sector are identified in Exhibit III-1.

Integrated applications are identified as important in regard to processing services that offer accounting integrated with functional capabilities, and industry application software and turnkey systems developed for particular segments in the sector. Integrated construction, hotel, and organization systems have been featured in past sales efforts.
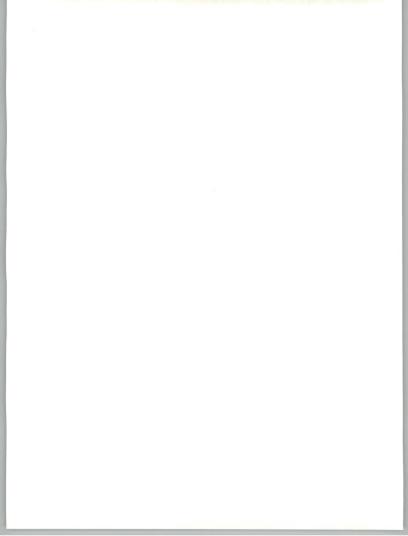
EXHIBIT III-1

KEY APPLICATIONS/TECHNOLOGIES

Application/Technology	Relative Weight (5 = High and 1 = Low)
Integrated Applications	4.3
Workstation/PC Technology	4.1
Connectivity	3.6
Data Management	3.3
POS and EFT Terminals	2.8

Workstation/PC technology is very important to vendors (such as Intergraph) that sell CAE product to construction companies, and to Ultimate and other companies that want to sell turnkeys to business users.
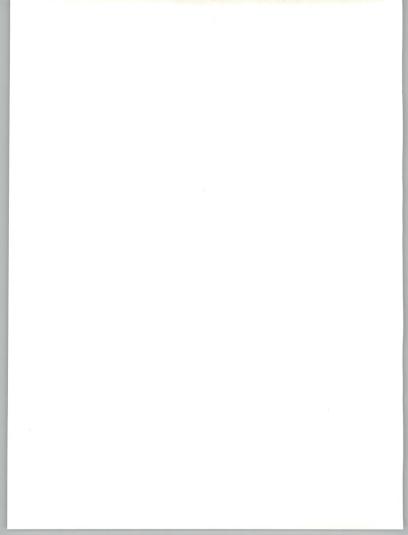
Connectivity has become increasingly important in view of the need to access data on customers, service, activity, schedules, costs, and other items from many separate functional offices. The need to access data and present it has also raised interest in data management; several user contacts indicated their interest in the use of relational technology to organize report data.

POS and EFT terminals are also key technological items. Some entertainment and recreation services now use POS terminals so that customers can avoid lines or waiting.

EDI was also mentioned by several vendors as a technology that will be of interest in automotive service and construction in the future.
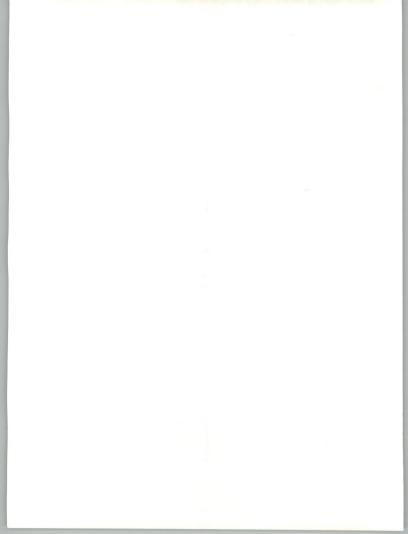
B
Leading and Emerging Vendors

As Exhibit III-2 indicates, there is a tier of leading vendors with substantial revenue from this sector. The leading vendors include Intergraph, Ultimate, and ADP. These vendors have planned services and capitalized on certain capabilities.

EXHIBIT III-2

SELECTED VENDOR SHARES OF THE OTHER INDUSTRIES SECTOR
INDUSTRY-SPECIFIC INFORMATION SERVICES, 1987

Vendor Name	Processing Services	Turnkey Systems	Application Software Products	Systems Integration	Professional Services	Total	Total Market Share (Percent)
Intergraph	-	125	-	-	-	125	9
Ultimate	-	120	-	-	-	120	9
ADP	105	-	-	-	-	105	8
General Instrument	-	19	-	-	-	19	1
Computerized Lodging	-	8	3	-	-	11	1
CTG	-	-	-	-	10	10	1
Project Software & Development	-	-	7	-	1	8	<1
CAI	-	-	2	-	-	2	<1
Contel	-	-	-	6	-	6	<1
Endata	6	-	-	-	-	6	<1
Construction Data	-	-	5	-	-	5	>1
Custom Business	-	-	5	-	-	5	<1
AGS	-	-	5	-	-	5	<1
Price Waterhouse	-	-	5	-	5	5	<1
Total	111	272	32	6	16	432	

- Intergraph has developed computer-assisted engineering applications on a turnkey system that addresses the construction market very well.

- Ultimate has used the relational-like data management and on-line capabilities of Pick system software to address several markets in the sector.

- ADP has carefully planned and sold processing services for the automotive service market.

A second tier of vendors is led by two turnkey suppliers, General Instrument and Computerized Lodging, but includes chiefly application software vendors.

One of the vendors of interest that has developed a software turnkey package based on a PC for the construction industry is The Software Shop. This package has been installed at many companies and includes specialized training and audio cassettes to help customers learn to use the job-estimating and accounting software components.

There are many small software, processing, and professional service vendors in the market that are specialists in segments of this sector. An example is AgData.

There are not many mergers, acquisitions, or sizeable companies entering the sector, although systems integration and network services have grown recently and Centel has emerged as a systems integration vendor.

C
Vendor Profiles—Agricultural Segment

1. Pioneer Hy-bred International; Des Moines, Iowa
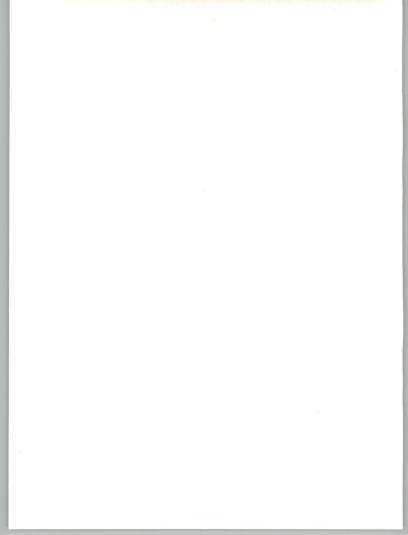
- Products/Services: Applications Software
- Revenue Range: $10 - $15 million

2. Harris Technical Systems; Omaha, Nebraska

- Products/Services: Applications Software
- Revenue Range: $1 - $3 million

D

Vendor Profiles— Automotive Services Segment

1. ADP, Roseland, New Jersey Processing Services

- Products/Services
- Markets served: Automotive repair
- Reduce Range: $100 million

2. Automotive Computer Group; Clearwater, Florida

- Products/Services: Applications software
- Markets Served: Auto repair shops
- Revenue Range: $1 - $3 million

3. Other Vendors:

- Repair Shop Systems; San Rafael, CA
- Softkey Software Products; Toronto, Ontario

E

Vendor Profiles— Construction Segment

1. Timberline Systems; Beaverton, OR

- Products/Services: Applications Software
- Revenue Range: $10 - $15 million

2. Concord Management Systems; Tampa, FL
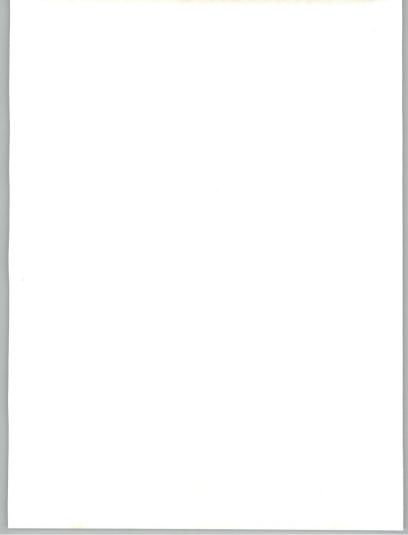
- Products/Services: Applications Software
- Revenue Range: $10 -$15 million

3. TOM Software, Inc.; Seattle, WA
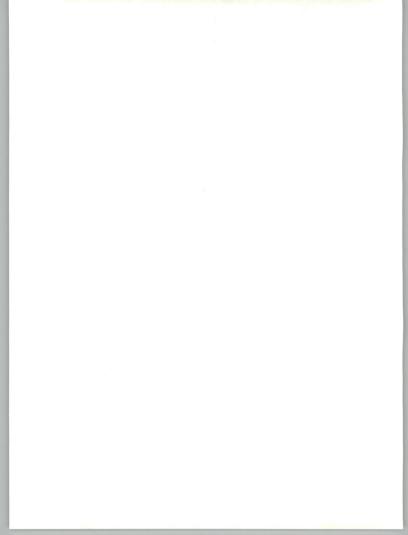
- Products/Services: Applications Software
- Revenue Range: $3 - $5 million

4. Intergraph; Huntsville, AL

- Products/Services: Turnkey Systems
- Revenue: $126 million

F

Vendor Profiles—Hotel/Motel/Lodging

1. EECO Computer, Inc.; Santa Ana, CA

- Products/Services: Applications Software
- Revenue Range: $10 - $15 million

2. Computerized Lodging Systems, Inc; Long Beach, CA

- Products/Services: Applications Software
- Revenue Range: $3 - $5 million

3. Hotel Information Systems; Pleasant Hill, CA

- Products/Services: Application Software
- Revenue Range: $3 - $5 million

G

Vendor Profiles—Nonprofit/Membership Organizations

1. TOM Software, Inc.; Seattle, WA

- Products/Services: Applications Software
- Revenue Range: $3 - $5 million

2. Smith, Abbott & Co., Inc.; Baltimore, MD

- Products/Services: Applications Software
- Revenue Range: $3 - $5 million

3. Quodata Corp.; Hartford, CT

- Products/Services: Applications Software
- Revenue Range: $3 - $5 million

H

Vendor Profiles—Recreation/Entertainment Segment

1. BetaData Systems, Inc.; Tucson, AZ

- Products/Services: Applications Software
- Revenue Range: $1 - $3 million

2. ADS Software, Inc.; Roanoke, VA

- Products/Services: Applications Software
- Revenue Range: $1 - $3 million

IV

User Issues and Directions

A

Major Issues in the Other Industries Sector

The driving forces with an impact on information systems department programs, according to companies in the Other Industries sector, are ranked in Exhibit IV-1.
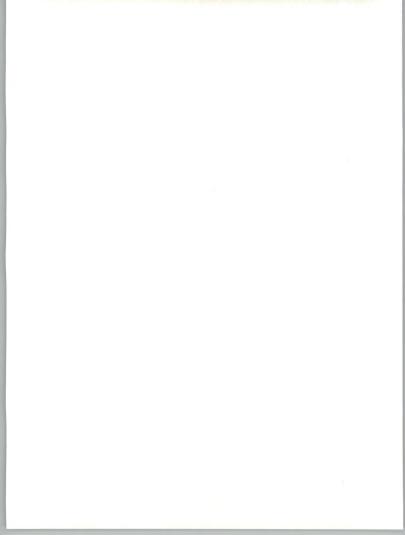
EXHIBIT IV-1

OTHER INDUSTRIES DRIVING FORCES OR KEY INDUSTRY TRENDS IMPACTING IS

- Tax Reform

- Decentralized Business Operations

- More Formal Business Procedures

- Technology

Tax reform, or more precisely, the record keeping required by tax laws, had a considerable effect on companies in this sector. Most of the companies have not had experience in the record keeping necessary for business operations and are seeking aid from accounting and information service vendors.

Many of the construction companies, hotels, automotive service companies, entertainment businesses, and other companies in this sector had

been owned by one person, a family, or a small group that practiced informal, but very centralized operations. These companies have become more decentralized with functions divided between executives and separated geographically. This change has been accompanied by a more formal approach to business.

The decentralization and use of more formal business procedures are both driving forces in the sector.

Another driving force is the use of technology, which is having an effect in most of the segments in the sector.

• Biotechnology is being introduced more rapidly in agriculture.

• Auto repair requires much more sophistication in testing equipment.

• Construction companies, hotels, and entertainment companies are using more high-technology equipment and communication facilities.

In parallel with other developments in technology, the use of information technology is spreading.
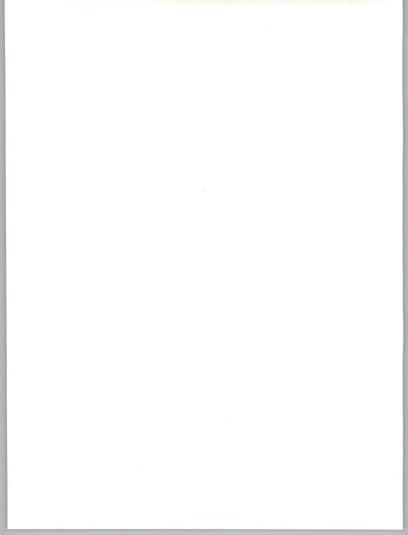
B
User Budget Distribution

The factors affecting IS budgets that were reported by companies in this sector are listed in Exhibit IV-2.

EXHIBIT IV-2

FACTORS AFFECTING IS BUDGETS

- Hardware Costs

- Current Development Staff Costs

- Support of Company Business Plans

- Use of Information Services

- Business Conditions in Industry

Hardware cost is reported as the leading budget factor because a number of companies are presently considering IS plans that will require an initial purchase of hardware or a major upgrade from a small equipment complement. The IS plans being considered generally involved moving processing in-house or acquiring software packages to handle industry-specific applications.

Current development staff costs are second in importance as a budget factor, according to Other Industries companies. Many of these companies have relied heavily on processing, turnkey, or professional service companies and have just started to consider developing application software or evaluating vendor products to meet rising management expectations.

IS managers in this sector are becoming more sensitive to the need for making a contribution to company objectives rather than managing the IS production. This perception led IS managers to rank the support of company business plans as a key factor affecting budgets.
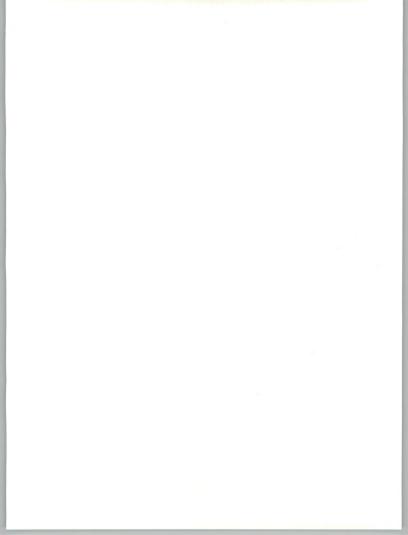
In a number of Other Industries companies that use outside processing services, IS managers report the cost of using these services as a major factor in budget plans. This fact suggests that IS managers may be considering shifts from processing service to application software or to in-house development.

• In many cases, the cost of using information services is borne by users directly, but the cost limits the amount that IS has available in a budget.

Business conditions in this sector are also reported to be a factor affecting IS budgets because the market segments of this sector—such as construction, lodging, agriculture, and entertainment—have boom-and-bust conditions. There are periods when the IS budget would be cut or expanded as a result of these sharp fluctuations.

The breakdown of the IS budget shown in Exhibit IV-3 indicates that personnel and hardware expenditures (43% and 39.5%) appear to be higher than the average for all industries in 1987 (40% and 28% respectively) and that the expenditures for external services and communication are lower.

• This situation appears to be so because this sector's IS budgets do not incorporate user expenditures for information services, in many cases.
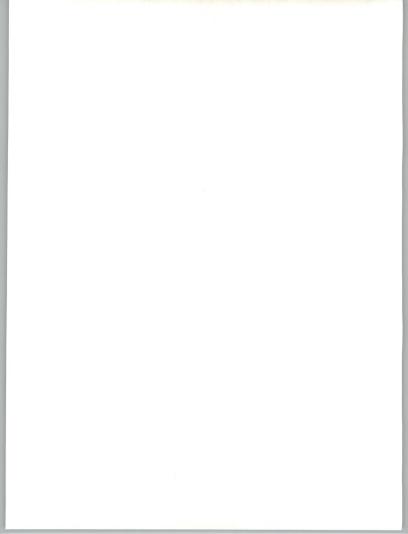
• The large hotel, entertainment, and car rental companies tend to influence budget estimates as well.

EXHIBIT IV-3

IS BUDGET - DISTRIBUTION AND GROWTH

Category	1987 Budget	1988 Budget	1988 Growth	1989 Growth
Personnel	43.0	43.0	10	5.0
Hardware				
- Mainframes	12.0	11.7	7.3	4.0
- Minicomputers	5.9	6.0	12.0	10.0
- Micros	6.3	6.4	12.0	12.0
- Mass Storage	4.0	4.0	10.0	10.0
- Other	11.3	11.0	7.0	10.0
Total Hardware	39.5	39.1	8.6	8.5
Communications	4.0	4.2	16.0	15.0
External Products & Services				
- Professional Services	1.2	1.3	19.0	15.0
- Processing Services	1.6	1.6	10.0	5.0
- Applications Software	2.5	2.6	14.0	15.0
- Systems Software	1.7	1.7	10.0	10.0
- Turnkey Systems	1.5	1.5	10.0	5.0
- Software Maintenance	1.6	1.6	10.0	10.0
- Hardware Maintenance	1.7	1.7	10.0	10.0
- Other	1.3	1.3	10.0	10.0
Total External	13.1	13.3	12.0	11.0
Other	0.4	0.4	10.0	10.0
Total Budget	100.0	100.0	10.0	7.6

The budgets for external products and services are estimated to be increasing in 1988 and 1989, partially caused by the fact that more information services are now beginning to appear in IS budgets. However, users still exercise considerable power over these expenditures in many companies in this sector.

On a relative basis, the expenditures for professional services and application software are reported to be rising more rapidly than expenditures for processing services.

C
Application Development

As Exhibit IV-4 illustrates, companies in this sector rely more upon external sources for application development than is true for the average of all industries.

EXHIBIT IV-4

APPLICATION DEVELOPMENT— SOURCE OF RESOURCES

1. Type of Source

Category	Other Industries	All Industries
Internal	71	76
External	12	9
Combination	17	15

2. Type of Development

Category	Other Industries	All Industries
Package Software	38	36
Custom Development	62	64

- On the average, Other Industries companies report that they use external resources solely 12% of the time and in combination with internal resources 17% of the time, versus 9% solely and 15% in combination for the average of all industries.

- Average use of outside resources may be understated since all end-user expenditures are not fully accounted for.
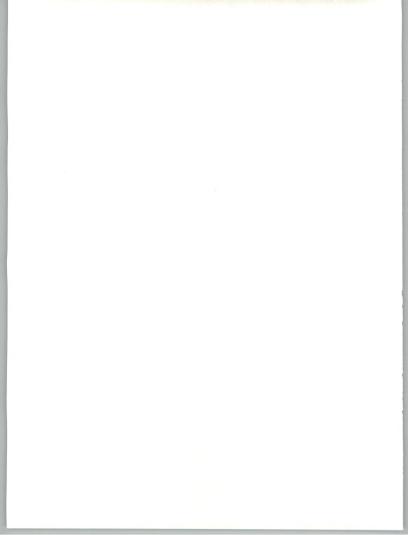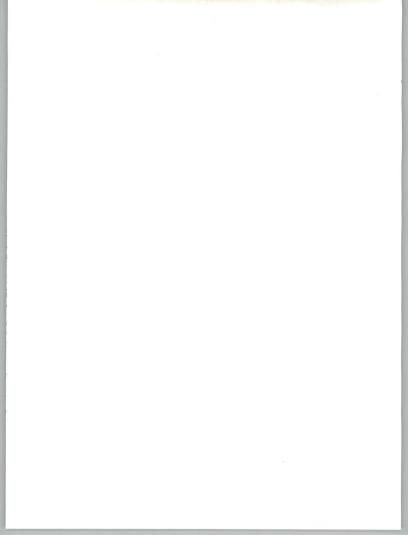
Exhibit IV-4 also indicates that package software is used slightly more (38% vs. 36%) and professional services slightly less (62% vs. 64%) than the average for all industries. This result must be considered together with the fact that more external resources are used on the average in this sector for application development. More total expenditures are spent in this sector for application packages or for professional services than in other sectors.

Altogether, companies in the Other Industries sector (except for very large companies such as Hertz, Avis, Holiday Inn, or Disneyworld) have lagged behind other industries in automation and are prone to rely upon vendors to help them catch up.

V

Opportunities for Vendors

The Other Industries sector is very large, diverse, and overall represents a good market opportunity for IS vendors.

The segments range from agriculture and construction to knowledge-intensive service industries such as automotive repair, and creative enterprises such as movie production.
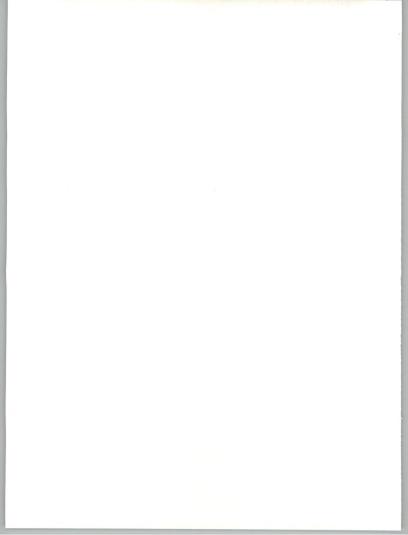
This sector is a good opportunity for IS vendors since the level of overall computerization is relatively low in nearly all segments. The major exception is the extensive processing networks used by the auto rental companies.

As in all markets, vendors should look toward providing a complete applications solution, not just a standalone product. This is what users want, and will pay a premium to obtain.

Market niches should be selected with care, to ensure that the combination of true market potential and existing vendor presence does not represent a limited opportunity.

Microcomputer-based vertical market applications software and network services are expected to grow much more rapidly than Other Industries delivery modes.

• Medium-size farms represent the best opportunity for sales to the agricultural segment since they have not been heavily penetrated and, overall, have reasonable prospects for success, given the industry's shakeout.

- Independent auto repair services could accommodate an easy-to-use microcomputer-based system for computing labor and inventory efficiency.

- Potential construction applications include:
  - Personnel records and benefits
  - Subcontractor monitoring and management
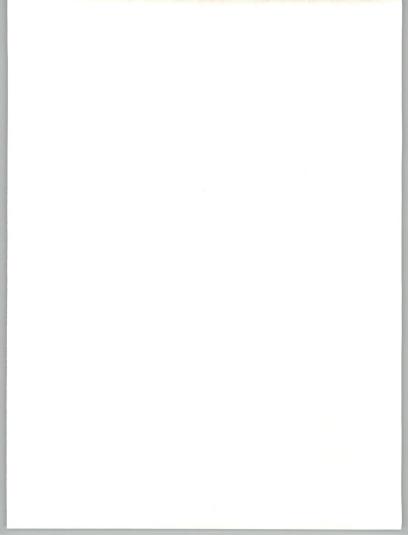 - Material estimating
  - Space layout

Noting that large vendors have been successful with more general-purpose products, smaller vendors that have served one niche should attempt to generalize their products and sell products to a wider marketplace.

Vendors that have a knowledge of market segments and are selling turnkeys and small processing services could supplement their products with professional services or systems integration services that are growing much more rapidly.

Some of the segments in this marketplace—such as hotels, entertainment, and some construction companies—could be customers for network services, as well as turnkeys, software, or professional services. Few vendors are now addressing the total needs of companies in this sector.

The need for improved record keeping and accounting systems within this sector provides an opportunity for many vendors with accounting expertise to enter selected areas of the sector, perhaps in an alliance with small companies that have specialized knowledge of industry-specific applications.

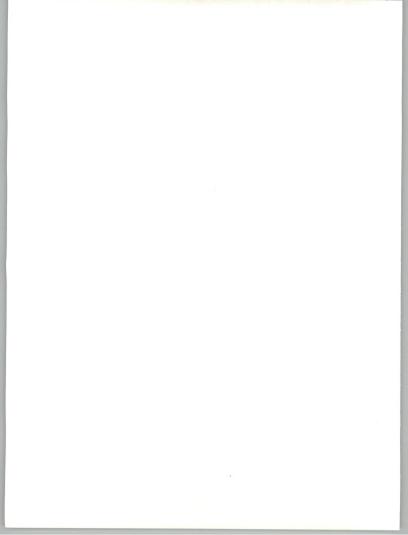- Target niches for IS in the hotel/motel/lodging market are:
  - Convention/event management
  - Bed and breakfast facilities
  - European-style hotels

- Nonprofit organizations could use software to help:
  - Operate the for-profit portions of their businesses
  - Manage association publications
  - Manage seminars
  - Provide better records for fundraising
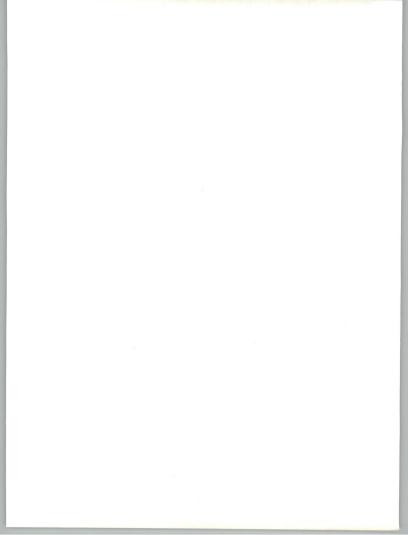 - Manage local political campaigns

- Within the sports/recreation segment, consider:
  - Theme park management
  - Management of musicals and plays by local music and theater groups (which may, coincidentally, be set up as nonprofit organizations)

In order to initially penetrate areas where IS purchases have been small, a great deal of hand-holding will be necessary. When pricing the product or service, vendors should take into account increased customer support costs.

Since there are no dominant applications software suppliers, a larger firm with strong marketing, sales, and sales support muscle could make significant inroads in one or more of these diverse market segments.

OI-A
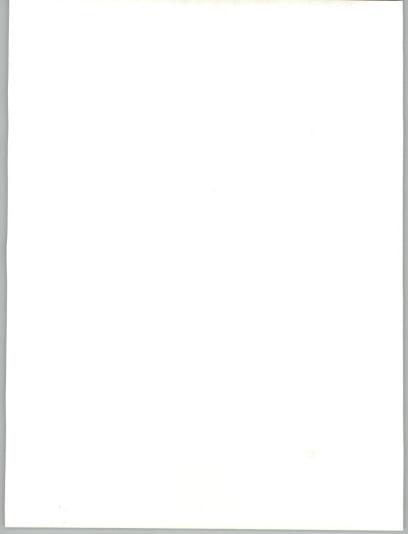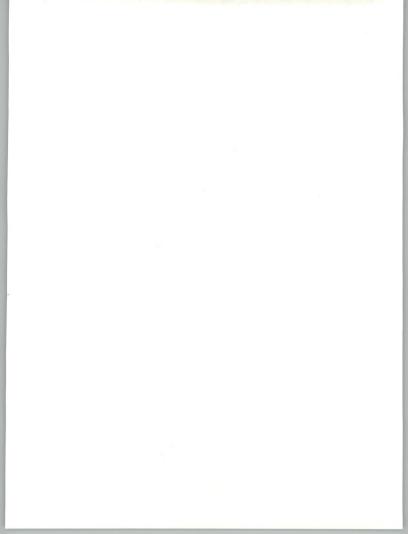
Appendix: Other Industries SIC Designations

EXHIBIT A-1

OTHER INDUSTRIES SIC DESIGNATION

Industry Sector	Number of Firms	Number of Employees	Two-Digit SIC Codes Included
Agriculture	2,200,000	2,700,000	01 through 09
Forestry	3,200	900,000	
Fisheries	4,000	300,000	
Automotive Services	140,000	975,000	75
Construction	1,500,000	7,100,000	15, 16, 17
Hotel/Motel/Lodging	45,000	1,400,000	70
Not-for-Profit/Membership Organizations	1,200,000	2,100,000	84, 86
Recreation/Entertainment	960,000	1,400,000	78, 79

OI-B

Appendix: Other Industries
Sector Data Base

OTHER INDUSTRIES SECTOR USER EXPENDITURE FORECAST
BY DELIVERY MODE, 1988 - 1993

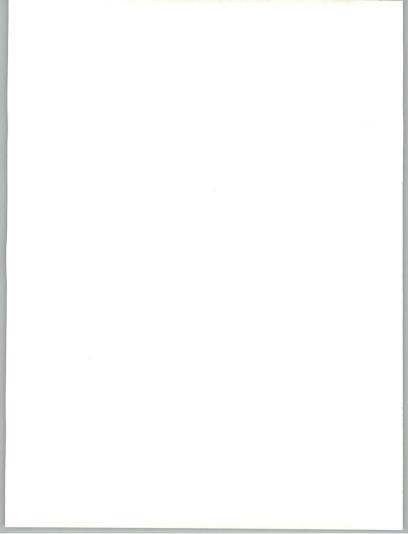| Sector by Delivery Mode	1987 ($M)	87-88 Growth (%)	1988 ($M)	1989 ($M)	1990 ($M)	1991 ($M)	1992 ($M)	1993 ($M)	CAGR 1988-1993 (Percent)
Total Other Sector Industries	1,360	11	1,520	1,755	2,010	2,285	2,600	2,980	14
Processing Services	540	10	595	670	750	825	910	1,010	11
Transaction Processing Services	530	10	580	650	730	805	890	980	11
Systems Operations	10	15	15	20	20	20	20	30	12
Network/Electronic Information Services	50	13	60	80	110	150	190	255	33
Electronic Information Services	15	15	20	30	30	40	40	45	14
Network Applications	35	11	40	50	80	110	150	210	40
Application Software Products	130	19	160	190	220	260	310	360	18
Mainframe	30	19	40	40	50	60	60	70	13
Minicomputer	90	15	100	120	130	150	180	200	15
Workstation/PC	10	50	20	30	40	50	70	90	34
Turnkey Systems	320	9	345	380	20	460	500	540	9
Systems Integration	60	24	70	90	110	130	160	195	23
Professional Services	260	11	290	345	400	460	530	620	16

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INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

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